



Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2018 Accomplishment Plan

General Information

Date: 04/27/2021

Project Title: Two Rivers Fish Passage Restoration and Habitat Enhancement

Funds Recommended: \$2,000,000

Legislative Citation: ML 2018, Ch. 208, Art. 1, Sec. 2, subd 5(o)

Appropriation Language: \$2,000,000 the second year is to the commissioner of natural resources for an agreement with the city of Hallock to restore and enhance fish passage and habitat in the South Branch Two Rivers. A list of proposed restorations must be provided as part of the required accomplishment plan.

Manager Information

Manager's Name: Aimee Sugden

Title: Administrator

Organization: City of Hallock

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Location Information

County Location(s): Kittson.

Eco regions in which work will take place:

- Prairie

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Habitat

Narrative

Abstract

The City of Hallock will restore and enhance habitat to facilitate fish passage by retrofitting the existing Hallock Dam on the South Branch of the Two Rivers and re-establishing a stable riffle-pool habitat downstream, as funding allows. The existing 11-foot high dam will be modified with a rock-arch rapids fishway that will provide lake sturgeon and walleye spawning habitat and reconnect more than 30 miles and in excess of 300 acres of high quality, diverse habitat along the South Branch. In addition to the fish habitat improvement, the project will provide enhanced recreational opportunities for paddlers along the river.

Design and Scope of Work

Many native fish species migrate from the Red River to tributary streams, such as Two Rivers, to access quality spawning habitats. This is especially true for Lake Sturgeon, a native species recently re-introduced into the Red River Basin, which make very long migrations to reproduce in riffles and rapids found in high gradient areas. Barriers to fish passage, such as dams, prevent fish from making this seasonal spawning run. Much work has been done to eliminate these barriers but additional work is required. Restoring connections from the Red River to these critical habitats helps to re-establish and maintain healthy, robust native fish communities with greater resiliency to invasion by exotic species.

Fisheries surveys on Two Rivers clearly identified the Hallock Dam as a barrier to upstream migration. Recent fish surveys conducted by the DNR have found that 13 of the 43 species present in the Two Rivers are absent upstream of the dam in Hallock. Absent are large river species such as Channel Catfish, Sauger, and Freshwater Drum. The absence of these fish species also impact mussel populations which rely on the upstream migrations of large river species to transport juvenile life stages to hospitable habitat. Based on several DNR studies, removal of barriers create more diverse mussel and fish communities and also expand and improve fishing opportunities in river segments above barriers.

A fish passage project similar to the one proposed for Two Rivers was conducted on the Wild Rice River, another major tributary to the Red River. Similar to findings on Two Rivers, large river fish species such as Channel Catfish, Freshwater Drum, Goldeye, Sauger, and Smallmouth Bass were common below but rarely captured above the dam. Within one year of passage restoration at this dam, these large river species were common upstream of the dam, with channel catfish captured 70 river miles above the previous barrier. Restoration of fish passage on Two Rivers would likely yield similar results.

Retrofit of the Hallock dam with a rock arch rapids fishway will allow fish migration upstream of the Dam into a 30 plus mile stretch of river and more than 300 acres of aquatic habitat between Hallock and the Lake Bronson Dam. The river channel upstream of the reservoir created by the Hallock Dam between Lake Bronson and Hallock is a segment of river that is in its most natural, unaltered state. The channel undergoes a series of riffles and pools, and provides excellent fish and wildlife habitat.

Downstream of the dam, an unstable stream channel has caused degraded habitat and eroding banks. Here, as funding allows, the channel enhancement work will recreate the appropriate complex and diverse pool-riffle habitat. This will benefit both the project area and the habitat reaches downstream that will no longer need to handle the excessive sediment load. Natural channel design principles will be used to restore this channel.

How does the plan address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species?

A significant fishery exists on the Two Rivers, benefiting from the resource of the Red River. Stream survey work was done by the Minnesota DNR recently. This work identified 43 species of fish within the watershed but only 13 of these species upstream of the dam. The project will benefit lake sturgeon (*Acipenser fulvescens*) which is a MN species of Special Concern. The project will modify the existing 11 foot high dam with a rock arch rapids fishway that will provide lake sturgeon spawning habitat and reconnect more than 30 miles and in excess of 300 acres of habitat along the South Branch. Several other game species will benefit, including walleye, northern pike, channel catfish, largemouth bass, black crappie, bluegill, sauger, and various other non-game fish species.

In addition to the game species listed above, many non-game species of animals also exist within the South Branch river corridor. These include, but are not limited to sandhill crane, great blue heron, magpie, bald eagle, timber wolf, garter snake, various frog species, American bittern, marbled godwit, loon, and many others.

Describe how the plan uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:

It is recognized that dams create significant fragmentation of aquatic habitat. Recent DNR stream surveys indicate that 13 of 43 expected fish species are found upstream of the dam. The project eliminates the fragmentation and will allow passage of all of the fish species in the river system. The project will expand habitat corridors by opening up the reach of the South Branch Two Rivers upstream of the Hallock Dam. Both game and non-game species will benefit. River degradation downstream of the dam will also be addressed through the restoration of habitat in the mile of channel downstream of the dam, as funding allows. The project uses natural channel design principles. This project has been identified by the Two Rivers Watershed District as a priority in this subwatershed of the District.

Which two sections of the Minnesota Statewide Conservation and Preservation Plan are most applicable to this project?

- H3 Improve connectivity and access to recreation
- H6 Protect and restore critical in-water habitat of lakes and streams

Which two other plans are addressed in this program?

- Long Range Plan for Fisheries Management
- Red River of the North Fisheries Management Plan

Which LSOHC section priorities are addressed in this program?

Prairie

- Restore or enhance habitat on public lands

Does this program include leveraged funding?

-

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

The City of Hallock will maintain the installed project features into the future. Initially, the project will be monitored to ensure that the project is functioning as intended. The project will follow natural channel design principles, which create habitat conditions that are self-sustaining. Significant long-term maintenance costs are not expected. The City of Hallock will use funds currently used for dam maintenance to conduct required project maintenance.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
Annually	City of Hallock - Local Tax Levy	Inspect Rock Fishway and downstream habitat restoration features	Perform maintenance/repairs, as needed	-
One year after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries	-	-
5 years after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries	-	-
10 years after project completion	MN DNR - Fisheries	Fish survey conducted by Minnesota DNR fisheries	-	-

Activity Details

Requirements

If funded, this program will meet all applicable criteria set forth in MS 97A.056?

Yes

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?

Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15?

Yes

Where does the activity take place?

- Permanently Protected Conservation Easements
- County/Municipal
- Public Waters

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?

No

Timeline

Activity Name	Estimated Completion Date
Finalize Restoration project construction plans	September 2018
Complete project permitting	November 2018
Begin Construction	December 2018

Complete Construction	October 2019
Full Project Maintenance Begins	November 2019

Date of Final Report Submission: 06/30/2021

Budget

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan.

Totals

Item	Funding Request	Antic. Leverage	Leverage Source	Total
Personnel	-	-	-	-
Contracts	\$1,621,000	-	-	\$1,621,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	\$379,000	-	-	\$379,000
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	\$2,000,000	-	-	\$2,000,000

Amount of Request: \$2,000,000

Amount of Leverage: -

Leverage as a percent of the Request: 0.0%

DSS + Personnel: -

As a % of the total request: 0.0%

Easement Stewardship: -

As a % of the Easement Acquisition: -

How will this program accommodate the reduced appropriation recommendation from the original proposed requested amount?

It is anticipated that the appropriation will be used first to construct items associated with the rock fishway feature at the Dam and any excess funds will be used second to install downstream habitat features.

Describe and explain leverage source and confirmation of funds:

The City will explore additional outside funding through the US Fish and Wildlife Service and Clean Water Fund to complete downstream erosion/habitat features. None of these funds are confirmed at this time.

Contracts

What is included in the contracts line?

All of the contract amount is for restoration/enhancement work. 100%.

Federal Funds

Do you anticipate federal funds as a match for this program?

Yes

Are the funds confirmed?

No

What is the approximate date you anticipate receiving confirmation of the federal funds?

3/31/2018

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	0	0	2	2
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	10	10
Total	0	0	0	12	12

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	\$1,700,000	\$1,700,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	\$300,000	\$300,000
Total	-	-	-	\$2,000,000	\$2,000,000

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	0	2	0	2
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	0	0	10	0	10
Total	0	0	0	12	0	12

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	\$1,700,000	-	\$1,700,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	\$300,000	-	\$300,000
Total	-	-	-	\$2,000,000	-	\$2,000,000

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	\$850,000
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	\$30,000

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	\$850,000	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State	-	-	-	-	-

PILT Liability					
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	\$30,000	-

Target Lake/Stream/River Feet or Miles

1

Outcomes

Programs in prairie region:

- Protected, restored, and enhanced habitat for migratory and unique Minnesota species ~ *This project will restore and enhance habitat within a Public Water by reconnecting a disconnected reach and restoring a degraded reach of the South Branch Two Rivers. The project provides lake sturgeon and walleye spawning habitat and reconnects more than 30 miles and in excess of 300 acres of aquatic habitat. The restoration of the downstream reach will result in more complex diverse habitat which will promote aquatic diversity. Future stream surveys will confirm improvements in species diversity and populations. The project will also provide enhanced recreational opportunities for paddlers which can be tracked through City campground use statistics.*

Parcels

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Parcel Information

Sign-up Criteria?

No

Explain the process used to identify, prioritize, and select the parcels on your list:

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
320081600	Kittson	16149213	0	\$5,000	No
320082400	Kittson	16149213	0	\$5,000	No
320081800	Kittson	16149213	0	\$5,000	No
320082000	Kittson	16149213	0	\$5,000	No
320083200	Kittson	16149213	0	\$5,000	No
320081200	Kittson	16149213	0	\$5,000	No
320082200	Kittson	16149213	0	\$5,000	No
300182480	Kittson	16148218	0	\$45,000	No
320006400	Kittson	16149213	0	\$500,000	No
320006200	Kittson	16149213	0	\$1,100,000	No
320005000	Kittson	16149213	0	\$40,000	No
320005800	Kittson	16149213	0	\$40,000	No
320005200	Kittson	16149213	0	\$40,000	No
320005600	Kittson	16149213	0	\$40,000	No
320004100	Kittson	16149212	0	\$20,000	No
320081400	Kittson	16149213	0	\$5,000	No
320080600	Kittson	16149213	0	\$5,000	No
320081000	Kittson	16149213	0	\$5,000	No
320082800	Kittson	16149213	0	\$5,000	No
320083000	Kittson	16149213	0	\$5,000	No
320005400	Kittson	16149213	0	\$100,000	No
300182520	Kittson	16148218	0	\$15,000	No



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other

Parcel Map
Two Rivers Fish Passage Restoration and Habitat
Enhancement
(Data Generated From Parcel List)